



(19) JAPANESE PATENT OFFICE (JP) (12) KOKAI TOKUHYO PATENT JOURNAL (A) (11) PATENT APPLICATION PUBLICATION NO. P2003-187521A  
(43) Publication Date: July 4, 2003

(51) Int. Cl. <sup>7</sup> :	Identification Codes	FI	Theme Codes (Reference)
G 11 B 20/00 31/00 H 04 N 5/765	541	G 11 B 20/00 31/00 H 04 N 5/91	C 5C053 541 C 5D080 L

Examination Request: Not filed		No. of Claims: 8 (Total of 10 pages; OL)
(21) Filing No.:	P2001-382549	(71) Applicant: 000003078 Toshiba Corporation 1-1 Shibaura, Minato-ku, Tokyo
(22) Filing Date:	December 17, 2001	(72) Inventor: Setsuo Terasaki Toshiba Corporation, Ome Plant 2-9 Suehiro-cho, Ome-shi, Tokyo
		(74) Agent: 100083161 Tokunaga Sotogawa, patent attorney
		F Terms (Reference): 5C053 KA26 LA08 LA11 60080 B401 B403 D404 D406 E401 J405

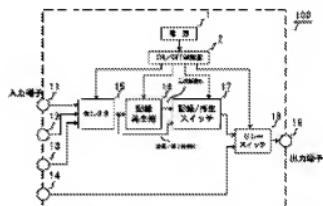
(54) [Title] RECORDING/REPRODUCTION DEVICE EQUIPPED WITH INPUT/OUTPUT SWITCHING UNIT

(57) [Abstract]

[Problem] When the power to the main body of a recording/reproduction device is off, the recording/reproduction device cannot be used as a selector for external input terminals.

[Means to solve] A selector 15 operates when the power to a recording/reproduction device 100 is on, and does not operate when the power is off. When a recording/reproduction unit 16 is in the recording/stopped state, a recording/reproduction switch 17 selects and outputs to a relay switch 18 a video/audio signal from the aforementioned selector 15. Furthermore, when recording/reproduction unit 16 is in the process of reproduction, recording/reproduction switch 17 selects and outputs to relay switch 18 the video/audio signal reproduced by recording/reproduction unit 16. When the power to the main body of recording/reproduction device 100 is on, relay switch 18 selects the signal that is input from recording/reproduction switch 17. When the power to the main body of recording/reproduction device 100 is off, relay switch 18 selects the signal that is input from an input terminal 14.

[There are no amendments to this patent.]



[Figure is translated at the end of document.]

Claims

1. A recording/reproduction device equipped with an input/output switching unit and characterized in that it is equipped with a first input terminal to which a first signal is input; a second input terminal to which a second signal is input;

a recording/reproduction means that, when recording occurs, records to a recording medium the first signal, which is input from the aforementioned first terminal, and that, when reproduction occurs, outputs a signal that is reproduced from the aforementioned recording medium;

a power supply that supplies voltage;

a voltage supply control means that supplies the voltage from the aforementioned power supply to the aforementioned recording/reproduction means;

and a switch that, when the aforementioned voltage supply control means is supplying voltage to the aforementioned recording/reproduction means, outputs a signal reproduced by the aforementioned recording/reproduction means or a signal input from the aforementioned first input terminal to an output terminal for the purpose of outputting to an image display device existing outside the [recording/reproduction] device, and that, when power is not being supplied to the aforementioned recording/reproduction device, outputs to the aforementioned output terminal a signal input from the second input terminal.

2. A recording/reproduction device equipped with an input/output switching unit and characterized in that it is equipped with a first input terminal to which a first signal is input;

a second input terminal to which a second signal is input;

a recording/reproduction means that, when recording occurs, records to a recording medium the first signal, which is input from the aforementioned first terminal, and that, when reproduction occurs, outputs a signal that is reproduced from the aforementioned recording medium;

a power supply that supplies voltage;

a control means to which the voltage from the aforementioned power supply is supplied and that controls the power supply of the device main body;

and a switch that, when the aforementioned control means is inputting the power to the aforementioned device main body, outputs a signal reproduced by the aforementioned recording/reproduction means or a signal input from the aforementioned first input terminal to an output terminal for the purpose of outputting to an image display device existing outside the [recording/reproduction] device, and that, when, the power to the aforementioned device main body is off, outputs to the aforementioned output terminal a signal input from the second input terminal.

3. The recording/reproduction device equipped with an input/output switching unit and recorded in Claim 1 or 2, characterized in that the aforementioned switch is a relay switch.

4. A recording/reproduction device equipped with an input/output switching unit and characterized in that it is equipped with a first input terminal to which a first signal is input;

a second input terminal to which a second signal is input;

a recording/reproduction means that, when recording occurs, records to a recording medium the first signal, which is input from the aforementioned first terminal, and that, when reproduction occurs, outputs a signal that is reproduced from the aforementioned recording medium;

a power supply that supplies voltage;

a voltage supply control means that supplies voltage from the aforementioned power supply to the aforementioned recording/reproduction means;

and a selection mean that, in response to a user operation, selects a signal input from the aforementioned recording/reproduction means or a signal input from the aforementioned second input terminal and outputs this selected signal to an output terminal for the purpose of outputting to an image display device existing outside the [recording/reproduction] device.

5. The recording/reproduction device equipped with an input/output switching unit and recorded in Claim 4, characterized in that the aforementioned selection means is a mechanical switch.

6. The recording/reproduction device equipped with an input/output switching unit and recorded in any one of Claims 1, 2, or 4, characterized in that it is further equipped with a third input terminal to which a third signal is input,

and with a selector that selects the signals input from the aforementioned first input terminal and the aforementioned third input terminal,

and when recording occurs, the aforementioned recording/reproduction means records a signal supplied from the aforementioned selector.

7. A recording/reproduction device equipped with an input/output switching unit and characterized in that it is equipped with a first input terminal to which a first signal is input;

a second input terminal to which a second signal is input;

a recording/reproduction means that, when recording occurs, records to a recording medium the first signal, which is input from the aforementioned first terminal, and that, when reproduction occurs, outputs a signal that is reproduced from the aforementioned recording medium;

a power supply that supplies voltage;

a voltage supply control means that supplies the voltage from the aforementioned power supply to the aforementioned recording/reproduction means;

a switch that, when the aforementioned voltage supply control means is supplying voltage to the aforementioned recording/reproduction means, outputs a signal reproduced by the aforementioned recording/reproduction means or a signal input from the aforementioned first input terminal to an output terminal for the purpose of outputting to an image display device existing outside the [recording/reproduction] device, and that, when the aforementioned voltage supply control means is not supplying power to the aforementioned recording/reproduction means, outputs to the aforementioned output terminal a signal input from the second input terminal;

and a display means to which voltage from the aforementioned power supply is supplied even when the aforementioned voltage supply control means is not supplying power to the aforementioned recording/reproduction means, and that displays a signal input from the aforementioned output terminal.

8. For a recording/reproduction device equipped with an external input terminal, a recording/reproduction device equipped with an external input terminal and characterized in that it is equipped with an output means that, when the power to the aforementioned recording/reproduction device is turned off, outputs to an external display device via an external output terminal a signal input from the aforementioned external input terminal.

#### Detailed explanation of the invention

[0001]

##### Technical field of the invention

This invention pertains to a recording/reproduction device; in particular, it pertains to a recording/reproduction device equipped with an input/output switching unit that is driven by a power supply and that selects and outputs one signal from multiple input signals.

[0002]

##### Prior art

Video/audio signals from the video/audio output terminals of various devices such as VTRs, DVDs, TV game devices, and video cameras are input to the video/audio input terminals of a TV via a signal line.

[0003]

With recent TVs the number of input terminals is increasing, but many people still use a TV with few input terminals. When there are few input terminals, sometimes this is handled by connecting a TV game device or the like to an input terminal of a VTR or the like recording/reproduction device and using the recording/reproduction device as a selector. When

an attempt is made to use a TV game device in this manner to make a connection, power is supplied to the internal selector by turning on the power to the recording/reproduction device, and the input of the video/audio signal of the recording/reproduction device is selected with the input terminal to which the TV game device is connected, while the input of the video/audio signal of the TV is selected with the input terminal to which the recording/reproduction device is connected. Thus, the video/audio signal of the TV game device can be viewed on the TV with the TV [sic]. A known example of such a connection device [connected] via a recording/reproduction device is the "Magnetic Recording/Reproduction Device" of Japanese Kokai Patent Application No. Hei 7[1995]-122042.

[0004]

Figure 5 is a diagram showing the configuration of such a recording/reproduction device.

[0005]

Recording/reproduction device 500 in Figure 5 is equipped with three video/audio signal input terminals, which are the input terminals 51, 52, and 53, which input video/audio signals from external devices, with the user being able to input the video/audio signal from any device. Furthermore, recording/reproduction device 500 is equipped with one video/audio output terminal, the output terminal 57.

[0006]

In Figure 5, input terminals 51, 52, and 53 are input terminals to which video/audio signals from external devices are respectively input. The respective video/audio signals from input terminals 51, 52, and 53 are supplied to a selector 54. Selector 54 selects one of the three video/audio signals that are input, and outputs this selected video/audio signal to a recording/reproduction unit 55 and a recording/reproduction switch 58.

[0007]

When recording/reproduction unit 55 is in the recording/stopped state, recording/reproduction switch 58 selects the video/audio signal from selector 54 and outputs this to an output terminal 57. When recording/reproduction unit 55 is in the process of reproduction, recording/reproduction switch 58 selects the video/audio signal reproduced by recording/reproduction unit 55 and outputs this to output terminal 57.

[0008]

The user controls the turning ON/OFF of power to the main body of recording/reproduction device 500 by pressing the Power On button of a remote control or the Power On button of the main body.

[0009]

This powered-off state wherein the power is OFF includes the waiting-to-record state based on a timer recording [function].

[0010]

When the user presses the Power On button of the remote control or the Power On button of the main body, an ON/OFF control unit 502 supplies power, supplied from a power supply 501, to selector 54, recording/reproduction unit 55, and recording/reproduction switch 58. Furthermore, when the user presses the Power OFF button of the remote control or the Power [O]FF button of the main body, ON/OFF control unit 502 stops the supply of the power from power supply 501 to selector 54, recording/reproduction unit 55, and recording/reproduction switch 58.

[0011]

Therefore, selector 54, recording/reproduction unit 55, and recording/reproduction switch 58 in recording/reproduction device 500 do not function when the power is cut to recording/reproduction device 500, and no signal is output to output terminal 57 when the power to the main body of recording/reproduction device 500 is cut off.

[0012]

Problems to be solved by the invention

Thus, with a conventional recording/reproduction device 500, there is a problem in that, when a game device or a video camera is connected to input terminals 51-53 and an attempt is made to monitor to [sic passim; possibly, 'view a signal with'] a TV via the recording/reproduction device and the power to recording/reproduction device 500 is off, the signal from the game device or video camera cannot be monitored, so it is not easy to use.

[0013]

Even if the user attempts to temporarily connect a game device or video camera to monitor [a signal] with a TV via the recording/reproduction device, the user must turn on the power to the main body of the recording/reproduction device every time, and must use a remote

control or the like to select the input terminal supplied from the game device or video camera that has been temporarily connected.

[0014]

Furthermore, for example, when a selector is used as the input terminal, there is a problem in that power is wastefully consumed at unnecessary locations (for example, a tuner) within recording/reproduction device 500.

[0015]

Therefore, the present invention was devised to solve the aforementioned problems, the objective being to provide a recording/reproduction device equipped with an input/output switching unit that is capable of switching to the signal from a desired input terminal and outputting to an output terminal even when the power to the main body is OFF, [thus] being easy for a user to use.

[0016]

Means to solve the problems

To achieve the aforementioned objective, this invention provides a recording/reproduction device equipped with an input/output switching unit and characterized in that it is equipped with a first input terminal to which a first signal is input; a second input terminal to which a second signal is input; a recording/reproduction means that, when recording occurs, records to a recording medium the first signal, which is input from the aforementioned first terminal, and that, when reproduction occurs, outputs a signal that is reproduced from the aforementioned recording medium; a power supply that supplies voltage; a voltage supply control means that supplies the voltage from the aforementioned power supply to the aforementioned recording/reproduction means; and a switch that, when the aforementioned voltage supply control means is supplying voltage to the aforementioned recording/reproduction means, outputs a signal reproduced by the aforementioned recording/reproduction means or a signal input from the aforementioned first input terminal to an output terminal for the purpose of outputting to an image display device existing outside the [recording/reproduction] device, and that, when power is not being supplied to the aforementioned recording/reproduction device, outputs to the aforementioned output terminal a signal input from the second input terminal.

[0017]

Furthermore, to achieve the aforementioned objective, this invention provides a recording/reproduction device equipped with an input/output switching unit and characterized in

that it is equipped with a first input terminal to which a first signal is input; a second input terminal to which a second signal is input; a recording/reproduction means that, when recording occurs, records to a recording medium the first signal, which is input from the aforementioned first terminal, and that, when reproduction occurs, outputs a signal that is reproduced from the aforementioned recording medium; a power supply that supplies voltage; a control means to which the voltage from the aforementioned power supply is supplied and that controls the power supply of the device main body; and a switch that, when the aforementioned control means is inputting the power to the aforementioned device main body, outputs a signal reproduced by the aforementioned recording/reproduction means or a signal input from the aforementioned first input terminal to an output terminal for the purpose of outputting to an image display device existing outside the [recording/reproduction] device, and that, when, the power to the aforementioned device main body is off, outputs to the aforementioned output terminal a signal input from the second input terminal.

[0018]

Furthermore, to achieve the aforementioned objective, this invention provides a recording/reproduction device equipped with an input/output switching unit and characterized in that it is equipped with a first input terminal to which a first signal is input; a second input terminal to which a second signal is input; a recording/reproduction means that, when recording occurs, records to a recording medium the first signal, which is input from the aforementioned first terminal, and that, when reproduction occurs, outputs a signal that is reproduced from the aforementioned recording medium; a power supply that supplies voltage; a voltage supply control means that supplies voltage from the aforementioned power supply to the aforementioned recording/reproduction means; and a selection mean that, in response to a user operation, selects a signal input from the aforementioned recording/reproduction means or a signal input from the aforementioned second input terminal and outputs this selected signal to an output terminal for the purpose of outputting to an image display device existing outside the [recording/reproduction] device.

[0019]

Furthermore, to achieve the aforementioned objective, this invention provides a recording/reproduction device equipped with an input/output switching unit and characterized in that it is equipped with a first input terminal to which a first signal is input; a second input terminal to which a second signal is input; a recording/reproduction means that, when recording occurs, records to a recording medium the first signal, which is input from the aforementioned first terminal, and that, when reproduction occurs, outputs a signal that is reproduced from the

aforementioned recording medium; a power supply that supplies voltage; a voltage supply control means that supplies the voltage from the aforementioned power supply to the aforementioned recording/reproduction means; a switch that, when the aforementioned voltage supply control means is supplying voltage to the aforementioned recording/reproduction means, outputs a signal reproduced by the aforementioned recording/reproduction means or a signal input from the aforementioned first input terminal to an output terminal for the purpose of outputting to an image display device existing outside the [recording/reproduction] device, and that, when the aforementioned voltage supply control means is not supplying power to the aforementioned recording/reproduction means, outputs to the aforementioned output terminal a signal input from the second input terminal; and a display means to which voltage from the aforementioned power supply is supplied even when the aforementioned voltage supply control means is not supplying power to the aforementioned recording/reproduction means, and that displays a signal input from the aforementioned output terminal.

[0020]

Furthermore, to achieve the aforementioned objective, this invention provides, for a recording/reproduction device equipped with an external input terminal, a recording/reproduction device equipped with an external input terminal and characterized in that it is equipped with an output means that, when the power to the aforementioned recording/reproduction device is turned off, outputs to an external display device via an external output terminal a signal input from the aforementioned external input terminal.

[0021]

Furthermore, the recording/reproduction means of the present invention includes a circuit to which voltage is supplied for the purpose of waiting for a recording/reproduction [operation] when the power to the recording/reproduction device is off and to which voltage is not supplied when the power is off.

[0022]

Embodiments of the invention

The recording/reproduction device of the present invention can be any recording/reproduction device or the like that uses a VTR, DVD-RAM/RW, [or] HDD.

[0023]

With the present invention, the explanation involves an example with a video/audio signal, but it is not restricted thereto; it can be only a video signal, or only an audio signal, or can be a signal other than a video/audio signal.

[0024]

First embodiment

[0025]

In the following a recording/reproduction device equipped with an input/output switching unit according to a first embodiment of the present invention will be explained in detail with reference to figures.

[0026]

Figure 1 is a block diagram showing the configuration of a recording/reproduction device 100 equipped with an input/output switching unit according to the present invention.

[0027]

Recording/reproduction device 100 in Figure 1 is equipped with four video/audio signal input terminals, for example. These four input terminals are input terminals 11, 12, 13, and 14, which input video/audio signals from external devices. The user is able to input the video/audio signal from any device via these input terminals, and is able to record/reproduce the signal.

[0028]

Furthermore, recording/reproduction device 100 is equipped with one video/audio output terminal, output terminal 19.

[0029]

The user controls the turning ON/OFF of power to the main body of recording/reproduction device 100 in Figure 1 by pressing the Power On button of a remote control or the Power On button of the main body. The powered-off state wherein the power is OFF includes the waiting-to-record state based on a timer recording [function]. Recording/reproduction device 100 in Figure 1 is enclosed with dashed lines, which indicate the chassis of recording/reproduction device 100, and the input terminals and output terminal are provided on this chassis.

[0030]

When the user presses the Power On button of the remote control or the Power On button of the main body, an ON/OFF control unit 2 supplies power, supplied from a power supply 1, to a selector 15, a recording/reproduction unit 16, and a recording/reproduction switch 17.

Conversely, when the user presses the Power OFF button of the remote control or the Power [OFF] button of the main body, ON/OFF control unit 2 stops the supply of the power from power supply 1 to selector 15, recording/reproduction unit 16, and recording/reproduction switch 17.

[0031]

Therefore, selector 15, recording/reproduction unit 16, and recording/reproduction switch 17 in recording/reproduction device 100 do not function when the power is cut to recording/reproduction device 100, and no signal is output to output terminal 19.

[0032]

Input terminals 11, 12, 13, and 14 are input terminals to which video/audio signals from external devices are respectively input. The respective video/audio signals from input terminals 11, 12, 13, and 14 are supplied to selector 15.

[0033]

When the power to recording/reproduction device 100 is on (hereinafter, 'ON'), selector 15 operates and selects any one of the aforementioned four video/audio signals that have been input, and outputs the selected video/audio signal to recording/reproduction unit 16 and recording/reproduction switch 17. When the power to recording/reproduction device 100 has been turned off (hereinafter, 'OFF'), this selector 15 does not operate, and as with the prior art no signal is selected nor is any signal output.

[0034]

When recording/reproduction unit 16 is in the recording/stopped state, recording/reproduction switch 17 selects the video/audio signal from selector 15 and outputs this to one terminal of a relay switch 18. Furthermore, when recording/reproduction unit 16 is in the process of reproduction, recording/reproduction switch 17 selects the video/audio signal reproduced by recording/reproduction unit 16 and outputs this to one terminal of relay switch 18.

[0035]

On the other hand, the video/audio signal from input terminal 14 is supplied to the other terminal of relay switch 18.

[0036]

The switching of relay switch 18 is controlled by a switching control signal supplied from ON/OFF control unit 2; when the power to the main body of recording/reproduction device 100 is ON, a fixed-voltage switching control signal is applied [to the switch] and, using electromechanical conversion – for example, by means of a mechanical switch that is driven using a magnet – the signal that is input from recording/reproduction switch 17 is selected and is output to output terminal 19.

[0037]

Conversely, when the power to the main body of recording/reproduction device 100 is OFF, a switching control signal that does not supply voltage is applied to relay switch 18, and the signal from input terminal 14 is selected automatically.

[0038]

Thus, if no voltage is applied, relay switch 18 selects the signal from input terminal 14 based on the force from a spring or the like, and sends the signal to the output terminal. Conversely, when a fixed voltage is applied, relay switch 18 selects and sends to output terminal 19 the signal from recording/reproduction switch 17, [this selection being] due to a mechanical switch that is driven by a magnetic field that overcomes the force of the aforementioned spring, due to the current generated by this voltage.

[0039]

Next, the operation when the power to the main body of recording/reproduction device 100 is ON will be explained in detail.

[0040]

The three video/audio signals from input terminals 11, 12, and 13 are supplied to selector 15.

[0041]

When the power to the main body of recording/reproduction device 100 is ON, the signal selected by selector 15 or the video/audio signal reproduced by recording/reproduction unit 16 is output from recording/reproduction switch 17, and this video/audio signal from recording/reproduction switch 17 is supplied to one terminal of relay switch 18. When the power

to the main body of recording/reproduction device 100 is ON, relay switch 18 always selects and supplies to output terminal 19 the signal that is output from recording/reproduction switch 17.

[0042]

On the other hand, the video/audio signal that is input from input terminal 14 is supplied to the other terminal of relay switch 18. However, when the power to the main body of recording/reproduction device 100 is ON, relay switch 18 does not select the video/audio signal from input terminal 14.

[0043]

Consequently, when the power to the main body of recording/reproduction device 100 is ON, the video/audio signal from recording/reproduction switch 17 is output to output terminal 19.

[0044]

Next, the operation when the power to the main body of recording/reproduction device 100 is OFF will be explained in detail.

[0045]

When the power to the main body of recording/reproduction device 100 is OFF, relay switch 18 always selects and supplies to output terminal 19 the signal that is output from input terminal 14.

[0046]

Consequently, when the power to the main body of recording/reproduction device 100 is OFF and if the user connects a TV game device to input terminal 14, the video/audio signal from the TV game device is output to output terminal 19, so the TV game device can be used. Furthermore, the power to the main body of recording/reproduction device 100 is off, so power is not needlessly consumed.

[0047]

As explained above, by means of this invention, the signal that is output to the output terminal is selected based on whether the power to the main body of recording/reproduction device 100 is ON or OFF, so when the power to the main body of recording/reproduction device 100 is off, the video/audio signal from a specific input terminal can be output to output terminal 19 of recording/reproduction device 100. Therefore, for example, when a game device is connected to a specific line input of the main body and [a signal] is monitored on the TV via the

output terminal, it is possible to enjoy games with a game device even when the power to the main body of recording/reproduction device 100 is off.

[0048]

Furthermore, in Figure 1 there are three input terminals to selector 15, but the present invention is not limited thereto; there can be any number of input terminals, as long as the number is greater than one.

[0049]

Furthermore, the signal from input terminal 14 also can be supplied to selector 15. In this manner the signal from input terminal 14 can be output to output terminal 19 even when the power to recording/reproduction device 100 is ON. Furthermore, the signal from input terminal 14 can then be recorded.

[0050]

Second embodiment

[0051]

Next, a recording/reproduction device equipped with an input/output switching unit according to a second embodiment of the present invention will be explained in detail with reference to Figure 2.

[0052]

The items in Figure 2 that are identical to those in Figure 1 are denoted with the same symbols, and their explanation will be omitted.

[0053]

Figure 2 differs from Figure 1 in that an input terminal 21 and a mechanical switch 22 have been added.

[0054]

The video/audio signals from input terminals 14 and 21 are supplied to mechanical switch 22.

[0055]

Mechanical switch 22 mechanically selects one of the two input signals from input terminals 14 and 21 whether the power to the main body of recording/reproduction device 100 is ON/OFF, and supplies the selected video/audio signal to relay switch 18.

[0056]

This mechanical switch 22 functions whether the power to the main body of recording/reproduction device 100 is ON/OFF, and can be switched by the user.

[0057]

Next, the operation when the power to the main body of recording/reproduction device 100 is ON will be explained in detail.

[0058]

The three video/audio signals from input terminals 11, 12, and 13 are supplied to selector 15.

[0059]

When the power to the main body of recording/reproduction device 100 is ON, the signal selected by selector 15 or the video/audio signal reproduced by recording/reproduction unit 16 is output from recording/reproduction switch 17, and this video/audio signal from recording/reproduction switch 17 is supplied to one terminal of relay switch 18. When the power to the main body of recording/reproduction device 100 is ON, relay switch 18 always selects and outputs to output terminal 19 the signal that is output from recording/reproduction switch 17.

[0060]

On the other hand, the video/audio signal that is input from input terminal 14 is supplied to the other terminal of relay switch 18. When the power to the main body of recording/reproduction device 100 is ON, relay switch 18 does not select the video/audio signal from input terminal 14.

[0061]

Consequently, when the power to the main body of recording/reproduction device 100 is ON, the video/audio signal from recording/reproduction switch 17 is output to output terminal 19.

[0062]

Next, the operation when the power to the main body of recording/reproduction device 100 is OFF will be explained in detail.

[0063]

When the power to the main body of recording/reproduction device 100 is OFF, relay switch 18 always selects and outputs to output terminal 19 the video/audio signal from mechanical switch 22. In other words, either the video/audio signal that is input from input terminal 14 or from input terminal 21 is output to output terminal 19.

[0064]

Consequently, if a TV game device is connected to input terminals 14 [or] 21 and this connected input terminal is selected by mechanical switch 22, when the power to the main body of recording/reproduction device 100 is OFF, the video/audio signal from this TV game device is output to output terminal 19, so the TV game device can be used. Furthermore, the power to the main body of recording/reproduction device 100 is off, so power is not needlessly consumed.

[0065]

As explained above, by means of this invention the signal that is output to the output terminal is selected based on whether the power to the main body of recording/reproduction device 100 is ON or OFF, so the video/audio signal from a specific input terminal can be output to output terminal 19 of recording/reproduction device 100 when the power to the main body of recording/reproduction device 100 is off. Therefore, for example, when a game device is connected to a specific line input of the main body and [a signal] is monitored on the TV via the output terminal, it is possible to enjoy games with the game device even when the power to the main body of recording/reproduction device 100 is off.

[0066]

Furthermore, it is possible to switch between the signals from multiple input terminals and supply [the selected signal] to output terminal 19 even the power to the main body of recording/reproduction input device 100 is OFF.

[0067]

Furthermore, in Figure 2 there are three input terminals to selector 15 and two input terminals to mechanical switch 22, but the present invention is not limited thereto; there can be any number of input terminals, as long as the number is greater than one.

[0068]

Furthermore, the signals from input terminals 14 and 15 [sic; 21] also can be supplied to selector 15. In this manner the signals from input terminals 14 and 15 can be output to output terminal 19 even when the power to recording/reproduction device 100 is ON. Furthermore, the signals from input terminals 14 and 15 can be recorded.

[0069]

Third embodiment

[0070]

Next, a recording/reproduction device equipped with an input/output switching unit according to a third embodiment of the present invention will be explained in detail with reference to Figure 3.

[0071]

The items in Figure 3 that are identical to those in Figure 1 are denoted with the same symbols, and their explanation will be omitted.

[0072]

Figure 3 differs from Figure 1 in that a mechanical switch 31, which is a selection means, is provided in place of relay switch 18.

[0073]

When recording/reproduction unit 16 is in the recording/stopped state, recording/reproduction switch 17 selects and outputs the video/audio signal from selector 15 to one terminal of mechanical switch 31. Furthermore, when recording/reproduction unit 16 is in the process of reproduction, recording/reproduction switch 17 selects and outputs to one terminal of mechanical switch 31 the video/audio signal reproduced by recording/reproduction unit 16.

[0074]

On the other hand, the video/audio signal from input terminal 14 is supplied to the other terminal of mechanical switch 31.

[0075]

Mechanical switch 31 functions whether the power to the main body of recording/reproduction device 100 is ON/OFF, selecting and outputting to output terminal 19 the video/audio signal from either selector 15 or input terminal 14, whichever is selected mechanically by the user.

[0076]

As explained above, by means of this invention the video/audio signal to be output to the output terminal can be selected freely whether the power to the main body of recording/reproduction device 100 is ON/OFF. Accordingly, the video/audio signal from a specific input terminal can be output to the output terminal of recording/reproduction device 100 even when the power to the main body of recording/reproduction device 100 is off. Therefore, for example, when a game device is connected to a specific line input of the main body and [a signal] is monitored on the TV via the output terminal, it is possible to enjoy games with the game device even when the power to the main body of recording/reproduction device 100 is off.

[0077]

Furthermore, in Figure 3 there are three input terminals to selector 15, but the present invention is not limited thereto; there can be any number of input terminals, as long as the number is greater than one.

[0078]

Furthermore, the signal from input terminal 14 also can be supplied to selector 15. In this manner the signal from input terminal 14 can be output to output terminal 19 even when the power to recording/reproduction device 100 is ON. Furthermore, the signal from input terminal 14 can be recorded.

[0079]

Furthermore, in Figure 3, mechanical switch 31, which is a mechanical switch [sic], is used as the selection means, but this can be an electrical switch and power can be supplied to this electrical switch even if the power to the main body is turned off. Thus, [this switch] can function as a switch even if the power to the recording/reproduction device is turned off.

[0080]

Fourth embodiment

[0081]

Next, a recording/reproduction device equipped with an input/output switching unit according to a fourth embodiment of the present invention will be explained in detail with reference to Figure 4.

[0082]

The items in Figure 4 that are identical to those in Figure 3 are denoted with the same symbols, and their explanation will be omitted.

[0083]

Figure 4 differs from Figure 3 in that the respective signals from input terminals 11-14 are supplied to selector 15 and to mechanical switch 31.

[0084]

In Figure 4 the video/audio signals from input terminals 11, 12, 13, and 14 are input in a selectable manner to selector 15. Furthermore, the video/audio signals from input terminals 11, 12, 13, and 14 are input in a selectable manner to mechanical switch 31.

[0085]

The mechanical switch functions whether the power to the main body of recording/reproduction device 100 is ON/OFF, and one of the video/audio signals from input terminals 11-14 is selected mechanically by the user and supplied to output terminal 19.

[0086]

When recording/reproduction device 100 is thus connected, the user is able to freely select from any of the input terminals the video/audio signal that is output to the output terminal, whether the power to the main body of recording/reproduction device 100 is ON or OFF.

[0087]

As explained above, by means of this invention, the video/audio signal to be output to the output terminal can be selected freely whether the power to the main body of recording/reproduction device 100 is ON/OFF. Accordingly, the video/audio signal from a specific input terminal can be output to the output terminal of recording/reproduction device 100 even when the power to the main body of recording/reproduction device 100 is off. Therefore, for example, when a game device is connected to a specific line input of the main body and [a

[signal] is monitored on the TV via the output terminal, it is possible to enjoy games with the game device even when the power to the main body of recording/reproduction device 100 is off.

[0088]

Furthermore, in Figure 4, there are four input terminals to selector 15, but the present invention is not limited thereto; there can be any number of input terminals, as long as the number is greater than one.

[0089]

Moreover, this invention is not limited to the aforementioned embodiments; various modifications can be made without departing from the scope thereof.

[0090]

#### Effect of the invention

As explained above, by means of the present invention, the video/audio signal from a specific input terminal can be output to an output terminal of a recording/reproduction device even when the power to the main body of the recording/reproduction device is off. Therefore, for example, when a game device is connected to a specific line input of the main body of the recording/reproduction device and [a signal] is monitored on the TV via the output terminal, it is possible to enjoy games with the game device even when the power to the main body of the recording/reproduction device is off.

#### Brief description of the figures

Figure 1 is a block diagram showing the configuration of a recording/reproduction device equipped with an input/output switching unit according to a first embodiment of the present invention.

Figure 2 is a block diagram showing the configuration of a recording/reproduction device equipped with an input/output switching unit according to a second embodiment of the present invention.

Figure 3 is a block diagram showing the configuration of a recording/reproduction device equipped with an input/output switching unit according to a third embodiment of the present invention.

Figure 4 is a block diagram showing the configuration of a recording/reproduction device equipped with an input/output switching unit according to a fourth embodiment of the present invention.

Figure 5 is a block diagram showing the configuration of a conventional recording/reproduction device equipped with an input/output switching unit.

Explanation of symbols

1	Power supply
2	ON/OFF control unit
11, 12, 13, 14, 21	Input terminal
15	Selector
16	Recording/reproduction unit
17	Recording/reproduction switch
18	Relay switch
19	Output terminal
22, 31	Mechanical switch
100	Recording/reproduction device

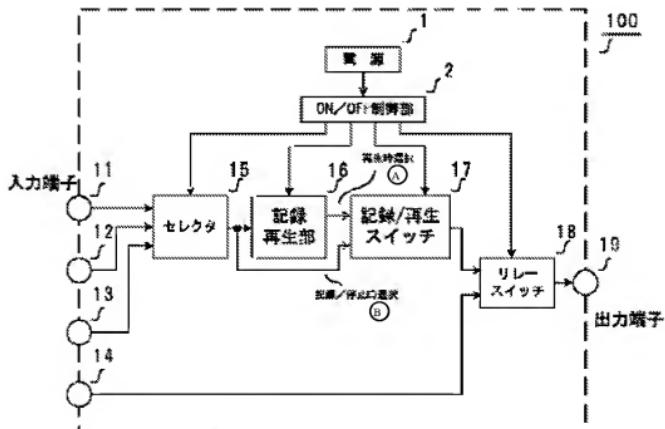


Figure 1

Key:

A	Selection when reproducing
B	Selection when recording/stopped
1	Power supply
2	ON/OFF control unit
11	Input terminal

- 15 Selector
- 16 Recording/reproduction unit
- 17 Recording/reproduction switch
- 18 Relay switch
- 19 Output terminal

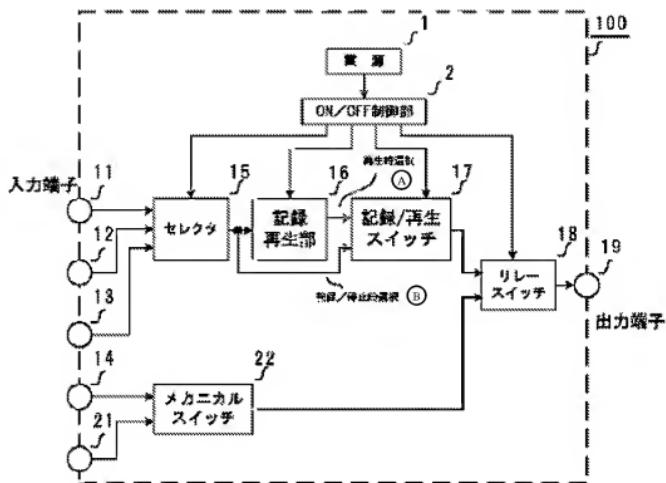


Figure 2

Key:

- A Selection when reproducing
- B Selection when recording/stopped
- 1 Power supply
- 2 ON/OFF control unit
- 11 Input terminal
- 15 Selector
- 16 Recording/reproduction unit
- 17 Recording/reproduction switch
- 18 Relay switch
- 19 Output terminal
- 22 Mechanical switch

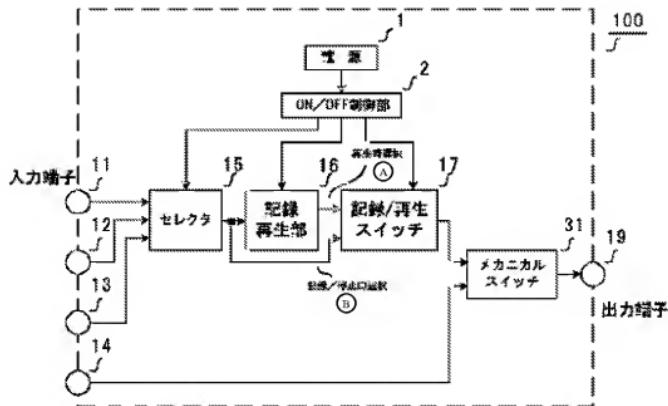


Figure 3

Key:

- A Selection when reproducing
- B Selection when recording/stopped
- 1 Power supply
- 2 ON/OFF control unit
- 11 Input terminal
- 15 Selector
- 16 Recording/reproduction unit
- 17 Recording/reproduction switch
- 19 Output terminal
- 31 Mechanical switch

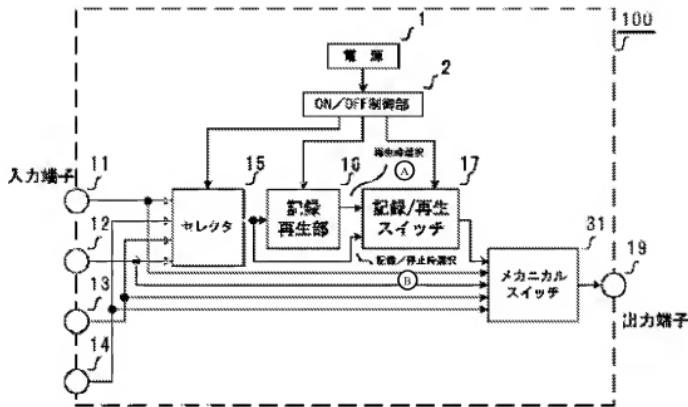


Figure 4

Key:

- A Selection when reproducing
- B Selection when recording/stopped
- 1 Power supply
- 2 ON/OFF control unit
- 11 Input terminal
- 15 Selector
- 16 Recording/reproduction unit
- 17 Recording/reproduction switch
- 19 Output terminal
- 31 Mechanical switch

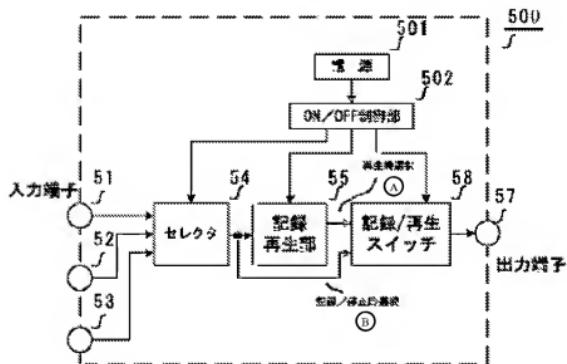


Figure 5

Key:

- A Selection when reproducing
- B Selection when recording/stopped
- 51 Input terminal
- 54 Selector
- 55 Recording/reproduction unit
- 57 Output terminal
- 58 Recording/reproduction switch
- 501 Power supply
- 502 ON/OFF control unit